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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,735	03/04/2005	Volkmar Schulz	PHDE020199US	7890

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER	
CWERN, JONATHAN	
ART UNIT	PAPER NUMBER
3737	

MAIL DATE	DELIVERY MODE
10/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,735	SCHULZ ET AL.	
	Examiner	Art Unit	
	Jonathan G. Cwern	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/4/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 3/4/05 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atalar et al. (US 5699801) in view of Hastings et al. (US 2002/0103430) and further in view of Moore et al. (US 2002/0007120).

Atalar show, with respect to claims 1-6, a main field magnet system (column 4, lines 35-50); a gradient coil system for generating magnetic gradient fields (column 4, lines 35-50); an RF coil system for exciting an examination zone (column 4, lines 35-40); a receiving coil system for receiving MR signals from the examination zone (column 4, lines 35-400; a catheter for use in MR imaging (Atalar show a catheter which is removed after the coil is in place, column 8, lines 20-35); a hollow channel guide or lumen within the catheter for receiving a medical instrument (column 8, lines 20-35); two electrical conductors which are enclosed by a cable sheath of a dielectric material and serve for the transmission of RF signals within the catheter sleeve (column 7, lines 30-65), and the distance between the electrical conductors being smaller than 300 micrometers (0.1mm, column 7, lines 30-65). Also, means for catheter localization (locating the coil position, column 15, lines 25-40); local excitation of the examination zone and local reception of MR signals (transmit and receive, column 12, lines 10-35).

Atalar fail to show, with respect to claims 1-6, a catheter sleeve; the dielectric material having a relative permittivity smaller than 4, the diameter of the electrical conductors being between 5 and 50 micrometers, and a control unit to control the MR device; the dielectric material has a relative permittivity which is smaller than 2.3; the dielectric material is an aerated synthetic material; the two electrical conductors are arranged to conduct a direct voltage to the voltage supply of a medical instrument arranged on or in the catheter.

Hastings show, with respect to claims 1-6, a catheter sleeve (Hastings also show a more complete catheter system in which would not be removed after the coil is in

place, [0036]) and Figure 2a); a control unit to control the MR device ([0035]); and the electrical conductors arranged to conduct a direct voltage to the voltage supply of a medical instrument arranged on or in the catheter (the leads from the power supply connect to the leads of the coil assembly and used to enhance the image or measure the location and orientation of the coils, [0038]).

Moore show, the dielectric material having a relative permittivity smaller than 4 (dielectric constant is 2.7, [0117]).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have used the conductors to carry a voltage to power the coils as taught by Hastings, in the device of Atalar, with the motivation that they will provide a suitable means to conduct a voltage to the medical instrument within the catheter. This will simplify and reduce the cost of the device as there is no need for extra wiring to power the instrument. Atalar describes the coil serving as a transmitter, and transmitter power being introduced (column 12, lines 10-35). The Hastings reference is provided as additional support because Atalar does not explicitly state that the conductors carry the voltage to power the transmitter, although this is Atalar's intention.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have made the dielectric conductors between 5 and 50 micrometers, to use a dielectric material with a relative permittivity smaller than 2.3, and to have the dielectric material be an aerated synthetic material. Atalar's conductors are 100 micrometers (column 7, lines 30-65). Conductors of a size between 5 and 50 micrometers are well known to exist throughout the electronic arts. The dielectric

constant of Moore is 2.7. Materials with dielectric constants of less than 2.7 are well known in the art. In fact, Atalar show that the dielectric material may be the synthetic material, tetrafluoroethylene, or "TEFLON", which has a dielectric constant less than 2.7. As per applicant's specification, aerated synthetic materials are known and marketed by Good Fellow. FP301040 or FP301020 are variations of tetrafluoroethylene, or "TEFLON". Moore supplies the motivation that one of ordinary skill in the art would know to choose the size of the conductors and the dielectric material to match the desired impedance levels of the transmission lines ([0134]).

There is a reasonable expectation of success to combine these references because all are related to intraluminal probes for analysis of the human body. Hastings and Atalar are directed towards specifically MR imaging, and although Moore does not specifically mention MR imaging, one of ordinary skill in the art would recognize that the conductor and dielectric teaches of Moore are not limited by an particular imaging modality, and could be applied to any electronic art or imaging modality in which conductors and dielectric material are used.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached Notices of References Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Cwern whose telephone number is 571-270-1560. The examiner can normally be reached on Monday through Friday 9:30AM - 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JC
10/16/07